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Customer No.: 07278
PATENT TRADEMARK OFFICE

Docket No: 3620/1F311US1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Stephen O'BRIEN

Serial No.: to be assigned Art Unit:

Confirmation No.:

Filed: Concurrent Examiner:

For: IMPROVED STEPPED ETALON

PRELIMINARY AMENDMENT

Hon. Commissioner of
Patents and Trademarks
Washington, DC 20231

August 20, 2001

Sir:

Concurrent with the filing of the subject divisional application, please amend the same as follows:

In the Claims:

Cancel claims 1-5 without prejudice.

Add the following claim:

18. A method of producing a stepped etalon having transition regions between steps that are not parallel to an opposing side comprising the steps of:

providing an etalon body that is transparent at least in a first range of wavelengths and having first and second opposing sides; and

etching said first side in regions at an angle of less than 90° to produce said transition regions.

A marked up version of the amended claims pursuant to 37 C.F.R. §1.121 is attached.

6. (Amended) A method of producing a stepped etalon having softened step transitions comprising the steps of:

providing an etalon body which is transparent at least in a first range of wavelengths and having first and second opposing sides;

wherein said step of etching comprises:

depositing a masking material over a first portion of said first side while leaving a second portion of said first side exposed;

applying a directional abrasive etching beam to said first side at an angle less than ninety degrees relative to said first side for a predetermined amount of time; and

removing said masking material.

7. (Amended) A method of producing a stepped etalon as in claim 18 wherein said step of etching comprises:

depositing an erodible masking material of a predetermined thickness over a first portion of said first side while leaving a second portion of said first side exposed, the first and second portions being separated by a transition region, the masking material having a tail region of gradually decreasing thickness over the transition region;

etching said first side and erodible masking material for a predetermined amount of time; and

removing any remaining masking material from the first side.

11. (Amended) A method of producing a stepped etalon having transition regions between steps that are not parallel to an opposing side comprising the steps of:

providing an etalon body which is transparent at least in a first range of wavelengths and having first and second opposing sides, said first side having a

plurality of steps, adjacent steps separated by a generally abrupt transition region; and

further processing the etalon body first side to make the transition regions on said first side non-parallel to the opposing first side.

16. (Amended) A method of producing a stepped etalon having a step transition region that is not parallel to an opposing side of the etalon with a reduced degree of unwanted interference comprising the steps of:

providing an etalon body which is transparent at least in a first range of wavelengths and having first and second opposing sides, said first side having a plurality of steps, adjacent steps separated by a generally abrupt transition region;

masking the steps on the first side of the etalon body while leaving the transition region substantially exposed; and

doping the exposed transition region with a light-absorbing dopant, said dopant absorbing light having a wavelength within said predetermined range.

REMARKS

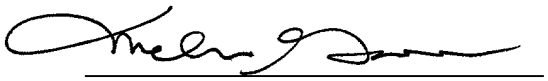
The subject application is a divisional of Serial No. 09/312,386. In the parent application, there was a five-way (5) restriction requirement. Apparatus claims 1-3 were elected. It is believed that apparatus claims 4-5 are also properly in the parent application. Accordingly, claims 1-5 are not carried over to this application.

Claims 6-17 of the parent, which are method claims, are carried over to

this application. Those claims were subject to a three-way (3) restriction requirement. The subject Preliminary Amendment presents a new claim 18, which is believed to be generic to all of the three groups of method claims 6-15. It is submitted that claim 16, from which claim 17 depends, also is generic.

Prompt and favorable action is requested.

Respectfully submitted,



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MARK-UP FOR PRELIMINARY AMENDMENT
PURSUANT TO 37 C.F.R. §1.121

6. (Amended) A method of producing a stepped etalon having softened step transitions comprising the steps of:

providing an etalon body which is transparent at least in a first range of wavelengths and having first and second opposing sides;

wherein said step of etching comprises:

depositing a masking material over a first portion of said first side while leaving a second portion of said first side exposed;

applying a directional abrasive etching beam to said first side at an angle less than ninety degrees relative to said first side for a predetermined amount of time; and

removing said masking material.

7. (Amended) A method of producing a stepped etalon [having softened step transitions comprising the steps of] as in claim 18 wherein said step of etching comprises:

[providing an etalon body which is transparent at least in a first range of wavelengths and having first and second opposing sides;]

depositing an erodible masking material of a predetermined thickness over a first portion of said first side while leaving a second portion of said first side exposed, the first and second portions being separated by a transition region, the masking material having a tail region of gradually decreasing thickness over the transition region;

etching said first side and erodible masking material for a predetermined amount of time; and

removing any remaining masking material from the first side.

11. (Amended) A method of producing a stepped etalon having [softened step] transition[s] regions between steps that are not parallel to an opposing side comprising the steps of:

providing an etalon body which is transparent at least in a first range of wavelengths and having first and second opposing sides, said first side having a plurality of steps, adjacent steps separated by a generally abrupt transition region; and

further processing the etalon body [to soften the abrupt nature of] first side to make the transition regions on said first side non-parallel to the opposing first side.

16. (Amended) A method of producing [an] a stepped etalon having a step transition region that is not parallel to an opposing side of the etalon with a reduced degree of unwanted interference comprising the steps of:

providing an etalon body which is transparent at least in a first range of wavelengths and having first and second opposing sides, said first side having a plurality of steps, adjacent steps separated by a generally abrupt transition region;

masking the steps on the first side of the etalon body while leaving the transition region substantially exposed; and

doping the exposed transition region with a light-absorbing dopant, said dopant absorbing light having a wavelength within said predetermined range.